

REMARKS

I. Summary of the Office Action

Claims 1-24 and 33-54 are pending in this application.

Claims 33-54 are subject to a final restriction requirement.

Claims 5, 12, 21 were objected to because of informalities.

Claim 14 was rejected under 35 U.S.C. § 112, second paragraph.

Claims 1-2, 4, 7-17, 19, and 21-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Belknap et al., U.S. Patent No. 5,586,264 ("Belknap") and RealNetworks, in view of "RealSystem G2 Production Guide,"

<http://service.real.com/help/library/guides/productiong27/realpgd.htm> ("Real").

Claims 3, 5-6, 11, 18, 20, and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over both Belknap and Real as applied to claims 1 and 17, and further in view of RealNetworks, "RealServer Administration Guide,"

<http://service.real.com/help/library/guides/g270/realsrvr.htm> ("Administration").

II. Summary of Applicants' Response

In response to the final restriction requirement, applicants have maintained their election without traverse of Invention I (claims 1-24) and cancelled claims 33-54 without prejudice to present them in this or a related application at a future date.

In response to the claim objections, applicants have amended claims 5, 12, and 21 to correct for the claim informalities.

In response to the rejection under 35 U.S.C. § 112, applicants have amended claim 14 to correct the typographical error wherein the word "a" was used rather than the word "the" to thereby provide proper antecedent basis for the second instance of mass storage subsystem.

Applicants traverse the rejections under 35 U.S.C. § 103(a).

III. Response to Restriction Requirement

Applicants had elected claims 1-24 (Invention I) without traverse in the response filed on November 19, 2004, to the Office Action mailed on October 21, 2004.

Applicants have cancelled without prejudice herewith claims 33-54, which the Examiner

considered part of previously non-elected Invention II.

Applicants reserve the right to present claims 33-54, or the subject matter of those claims, in this or a related application.

IV. Response to Claim Objections

Applicants have amended claim 5 to comply with the Examiner's interpretation of the term "assuming" by replacing the term "assuming" in the claim for the more definite subordinating conjunction "if."

Applicants have amended claim 12 to correct for the typographical error by deleting the article "a" before the word "audio."

Applicants have amended claim 21 to correct for the typographical error by replacing the article "a" for the article "an."

V. Response to Claim Rejection Under 35 U.S.C. § 112

Applicants have amended claim 14 to correct the typographical error wherein the word "a" was used rather than the word "the". Applicants have therefore replaced the second instance of the "a mass storage subsystem" limitation in claim 14 with the phrase "the mass storage subsystem" limitation, thereby providing proper antecedent basis in the claim.

Applicant trusts that with this amendment the rejection will be withdrawn.

VI. Response to Claim Rejections Under 35 U.S.C. § 103(a)

Applicants respectfully submit that the combination of Belknap and Real fails to render obvious the claimed invention.

"A claimed invention is unpatentable if the differences between it and the prior art 'are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.'" 35 USC § 103(a); *Graham v. John Deere Co.*, 383 U.S. 1, 14 (1965). Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of the invention, to consider the thinking of one skilled in the art, guided only by the prior art references and the then-accepted wisdom in the field. *W.L. Gore & Assoc., Inc. v. Garlock, Inc.* 721 F.2d 1540, 1553.

The best defense against the subtle but powerful attraction of hindsight-based obviousness analysis is a rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. There must be a clear and particular showing based on actual evidence of a teaching, suggestion, or motivation to make the cited combination. *C.R. Bard, Inc. v M3 Sys., Inc.*, 157 F.3d 1340,1352 (Fed. Cir. 1998). Broad statements regarding the teachings of multiple references standing alone are not evidence.

A. Claims 1-2, 4, 7-17, 19, and 21-23

The Examiner has suggested that the combination of the elements in Belknap and Real would render the claimed invention obvious. Applicants respectfully disagree and submit that there is no suggestion in the art that the server computer disclosed in Belknap and the file system disclosed in Real should be combined to provide the server computer of the present invention having a “file system organized into a plurality of asset groups, each asset group comprising at least one media asset” (claim 1).

The server disclosed in the present invention “maintains a file system organized into a plurality of asset groups” (specification, page 2, lines 30-31) so that media assets stored in each asset group “share storage medium bandwidth and storage space on the server computer that is reserved for the asset group to which the plurality of media assets belong” (specification, page 3, lines 1-2). “In an embodiment of the present invention, each asset belongs to only one asset group, thus avoiding replication of assets and more efficiently using storage space and storage bandwidth” (specification, page 5, lines 5-7). In the example provided with reference to Fig. 5, the use of asset groups in the present invention “reduces the bandwidth requirement by 50 %” (specification, page 10, line 6) for a university that would like to offer lecture notes in electronic form to students. Neither Belknap nor Real suggests such a server with asset group capabilities, and it would be sheer hindsight to suggest that, even if the references could be combined, that this feature would somehow be suggested.

The server disclosed in Belknap, as the Examiner recognizes in the Office Action, fails to maintain “a file system organized into a plurality of asset groups, each asset group comprising at least one media asset” (Office Action, page 4). The server in Belknap is part of “an interactive video server system that provides video simultaneously to a plurality of terminals with minimal

buffering” (Belknap, col. 1, lines 30-32). Video is provided from a pool of communication and storage nodes, with each storage node storing a segment or data block of the video.

A video or other logical file has its data “partitioned to reside in multiple file components, called stripes. Each stripe is allowed to exist on a different disk volume, thereby allowing the logical file to span multiple physical disks.” (Belknap, col. 29, lines 15-18). “When the data is written to the logical file, it is separated into logical lengths (i.e. segments) that are placed sequentially into the stripes” (Belknap, col. 29, lines 20-22). For example, as shown in Fig. 17 of Belknap,

“where a video data file 1 is segmented into M segments and split into four stripes, stripe 1 is a file containing segments 1, 5, 9, etc., of video file 1; stripe 2 is a file containing segments 2, 6, 10, etc., of video file 1; stripe 3 is a file containing segments 3, 7, 11, etc. of the video file and stripe 4 is a file containing the segments 4, 8, 12, etc., of video file 1, until all M segments of video file 1 are contained in one of the four stripe files” (Belknap, col. 29, lines 52-59).

That is, Belknap discloses storing each logical file or asset into multiple storage nodes by partitioning each asset into stripes, with each stripe containing different segments of the asset, to enable “isochronous data stream delivery in a multimedia environment” (Belknap, col. 2, lines 53-54) to multiple users simultaneously. Belknap therefore teaches away from storing an entire asset in an asset group for each asset in Belknap is partitioned into stripes or segments distributed to multiple storage locations.

In contrast, the server disclosed in the present invention stores each asset entirely in an asset group. An asset is not partitioned into segments or stripes. It is stored in a single asset group together with other assets to prevent asset replication and to make effective use of storage space and storage bandwidth. With reference to Fig. 3 of the above-identified application, “all assets within asset group 114 share the storage bandwidth, and are not played out using any asset group’s bandwidth” (specification, page 6, lines 2-4).

Furthermore, the asset groups disclosed in the present invention are characterized by a set of attributes, such as “Maximum simultaneous plays for asset group (118), Maximum bit rate (120), Default Guaranteed Possible Plays (DGPP) (122), Guaranteed Possible Playouts (124) (GPP), and Resource Quota (126)” (specification, page 5, lines 10-13). The attributes of a given

asset group indicate the storage and bandwidth shared by the assets stored therein as well as how many assets within the asset group may be played out simultaneously.

Belknap does not disclose an asset group having associated attributes. The only attributes or parameters disclosed in Belknap are those attributes associated with a scheduling algorithm for playing out an asset stored in multiple storage nodes (Belknap, cols. 15-17) and those parameters used to determine "the number of stripes (s) for a video" (Belknap, col. 30, line 61).

The Examiner suggests that it would have been obvious to one of ordinary skill in the art to modify Belknap to provide the feature of asset groups, as taught by Real. However, contrary to the Examiner's suggestion, Real does not disclose asset groups as taught by the present invention; rather Real at most simply discloses "options each RealPlayer can choose based on its available bandwidth" (chapter 7, page 94) to serve different clips to viewers with different connection speeds.

For example, as shown in the SMIL body of code described at chapter 7, pages 94-95, clips are grouped according to the "approximate bandwidth (in Kbps) each group consumes," such as a group "for dual isdn and faster" at "75000" Kbps, a group "for single isdn" at "47000" Kbps, and a group "for 28.8 modems" at "20000" Kbps. "RealPlayer evaluates options in the order listed, selecting the first viable option even if subsequent options suit it better. So if the 28.8 Kbps option is first, a RealPlayer with a dual-ISDN connection will choose that option because it is the first viable option listed" (Real, chapter 7, page 95).

As such, the groups disclosed in Real are not part of "a file system organized into a plurality of asset groups, each asset group comprising at least one media asset, the media asset sharing storage medium bandwidth and storage space on the server computer that is reserved for the asset group to which the media asset belongs" (claim 1). The groups are mere options for organizing assets according to a specific connection speed. There is no suggestion in Real that the clips or assets forming a group are stored in a file system, much less that they are stored in a way that enables them to share storage space and bandwidth.

As described in Real, assets are organized in a group according to the connection speed with which a user connects to the Real system for playing out assets. They are not organized in a group for the purposes of "sharing storage medium bandwidth and storage space on the server computer that is reserved for the asset group to which the medium asset belongs" (claim 17).

The assets in Real may be stored in the same server computer and grouped only based on different connection speeds available to Real users.

In fact, Real teaches away from storing assets in different asset groups so that assets within that group share the bandwidth allocated to that asset group. The assets listed under each group or option shown in Real, chapter 7, pages 94-95, do not share storage bandwidth; rather, they are all played out at different bandwidths on an individual basis as illustrated in Fig. 1 of the above-identified application. If a user is connecting to the Real system at 28.8 Kbps, for example, the Real system will play out the "newsong3" asset listed under the "system-bitrate='20000'" group. Alternatively, if the user is connecting to the Real system on a single isdn connection, the Real system will then play out the "newsong2" asset listed under the "system-bitrate='47000'" group.

That is, the groups or options are alternatives available to a user depending on the networking speed at which the user connects to the Real system. They are not organized to "optimize delivery to users in a distributed computer system" (specification, page 1, line 4). Rather, they are organized per connection speed to ensure that each user is getting an asset appropriate for that speed.

Furthermore, in contrast to the asset groups disclosed in the present invention, the groups listed in Real are not designed to guarantee a given rate of simultaneous plays for assets within a given group. In fact, there is not even a suggestion or indication in Real that the groups organized based on connection speed are able to sustain simultaneous plays for the assets within those groups. The SIML body of code shown in Real, chapter 7, pages 94-95 indicates with the "<switch>" tag that the groups are meant for alternative instead of simultaneous play. There is no indication that assets within a group or assets in different groups in Real may be played out simultaneously.

In short, the lack of means in any of the prior art references for providing asset groups having media assets that "share storage medium bandwidth and storage space on the server computer that is reserved for the asset group" (claim 17) to which the media assets belong is a strong indication that those means were not obvious at the time the invention was made.

Therefore, because the combination of Belknap and Real fails to disclose all the limitations of claims 1 and 17, applicants respectfully submit that claims 1 and 17, and their respective dependent claims, distinguish from, and are allowable over, the cited references.

B. Claims 3, 5-6, 11, 18, 20, and 24

With respect to the combination involving Belknap and Real and further in view of Administration, applicants respectfully submit that the cited references fail to render obvious the claimed invention.

Administration discloses options and parameters that system administrators of a “RealServer” can specify when setting up a server to stream media assets to clients connecting to the server using a RealPlayer. Those options and parameters include “MaximumClientConnections,” indicating “the number of clients who connect simultaneously” (Administration, chapter 14, page 210) and “MaximumBandwidth,” indicating “the amount of bandwidth RealServer can use to any number of kilobits per second (Kbps)” (Administration, chapter 14, page 210).

These parameters are not, as the Examiner suggests, to “limit the maximum number of simultaneous playouts for the media assets contained within the asset group” (Office Action, page 9, paragraph 7) nor to designate “the number of simultaneous playouts” within an asset group (Office Action, page 9, paragraph 7). As the Administration disclosure describes, those parameters pertain to a single RealServer where all the media assets are stored. There is no suggestion in Administration that the media assets stored in the RealServer should be part of asset groups, nor is there any suggestion that the media assets should be stored in the RealServer so that they “share storage medium bandwidth and storage space” (claim 24) on the server.

Therefore, because the combination of Belknap and Real and further in view of Administration fails to disclose all the limitations of claim 24, applicants respectfully submit that claim 24 distinguishes from, and is allowable over, the cited references.

CONCLUSION

In view of the above amendments and remarks, applicants respectfully submits that the present application is in condition for allowance.

If any matters can be resolved by telephone, the Examiner is invited to call the undersigned agent at the telephone number listed below. The Commissioner is authorized to charge any additional required fees, or credit any overpayment, to Dorsey & Whitney LLP Deposit Account No. 50-2319 (Order No. A-69479/RMA/MRC (468914-22))

Respectfully submitted,

Date: May 2, 2005

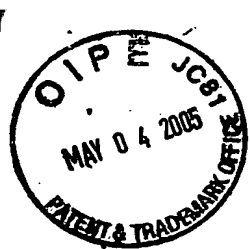
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Application No: 09/916,655
Reply to office action mailed on January 31, 2005
Art Unit: 2151

AMENDMENTS TO THE DRAWINGS

A replacement drawing sheet is attached following the signature page of this document. The replacement drawing sheet reflects the addition of a "130" reference number that was missing in the original drawing sheet filed with the above-identified application.



Application Serial No. 09/916,665
Amendment Dated 02 May 2005
Office Action Dated 31 January 2005
MARKED-VP SHEET

FIG. 3

